

CENSUS BULLETIN.

No. 185.

WASHINGTON, D. C.

June 9, 1902.

AGRICULTURE.

IDAHO.

Hon. WILLIAM R. MERRIAM,

Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture in the state of Idaho, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

A "farm," as defined by the Twelfth Census, includes all the land, under one management, used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., connected therewith. It includes, also, the house in which the farmer resides, and all other buildings used by him in connection with his farming operations.

The farms of Idaho, June 1, 1900, numbered 17,471, and were valued at \$42,318,188, of which amount \$6,881,815, or 16.1 per cent, represents the value of buildings, and \$35,486,368, or 83.9 per cent, the value of land and improvements other than buildings. On the same date the value of farm implements and machinery was \$3,295,045, and of live stock, \$21,657,974. These values, added to that of farms, give \$67,271,202, the "total value of farm property."

The products derived from domestic animals, poultry, and bees, including animals sold and animals slaughtered on farms, are referred to in this bulletin as "animal products." The value of all such products, together with the value of all crops, is termed "total value of farm products." This value for 1899 was \$18,051,625, of which amount \$8,784,384, or 48.7 per cent, represents the value of

animal products, and \$9,267,261, or 51.3 per cent, the value of crops, including forest products. The total value of farm products for 1899 is more than four and a half times that reported for 1889. A part of this increase is doubtless due to a more detailed enumeration in 1900 than in 1890.

The "gross farm income" is obtained by deducting from the "total value of farm products" the value of the products fed to live stock on the farms of the producers. In 1899 the reported value of products fed was \$3,405,804, leaving \$14,645,821 as the gross farm income. The ratio which this latter amount bears to the "total value of farm property" is referred to in the text as the "percentage of gross income upon investment." For Idaho, in 1899, it was 21.8 per cent. As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

Special reports as to the dimensions and cost of the leading irrigation ditches and canals, the area of land under them, methods for the artificial application of water to the growing crops, and other facts relating to irrigation were obtained by correspondence with farmers, engineers, and others. This correspondence was under the joint direction of Mr. F. H. Newell, chief hydrographer of the Geological Survey, acting as expert special agent for the division of agriculture, and Mr. Clarence J. Blanchard.

The statistics presented in this bulletin will be treated in greater detail in the report on agriculture in the United States. The present publication is designed to present a summarized advance statement for Idaho.

Very respectfully,

L. G. Powers.
Chief Statistician for Agriculture.

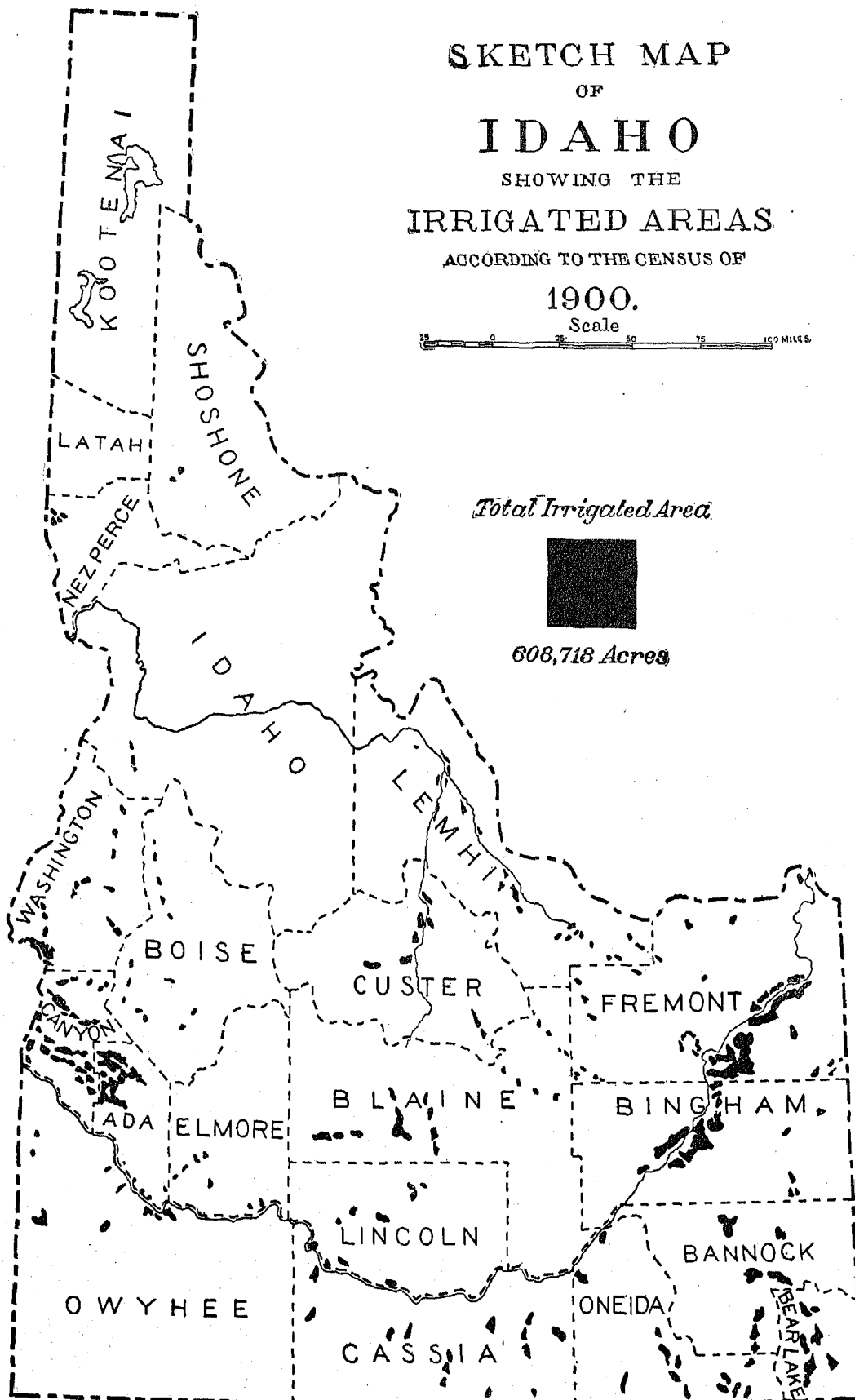
SKETCH MAP
OF
IDAHO
SHOWING THE
IRRIGATED AREAS
ACCORDING TO THE CENSUS OF
1900.

Scale
0 25 50 75 100 MILES

Total Irrigated Area.



608,718 Acres



AGRICULTURE IN IDAHO.

GENERAL STATISTICS.

Idaho has a total land surface of 84,290 square miles, or 53,945,600 acres, of which 3,204,903 acres, or 5.9 per cent, are included in farms.

The surface of the state is for the most part rugged, rising unevenly from the valley of the Snake River on the west, to the Bitter Root and Rocky mountains along the eastern boundary. A series of elevated plateaus extends from the southwestern corner irregularly toward the northeast; while east of these the mountains attain a height of about 10,000 feet. Large portions of the state have been subject to comparatively recent volcanic action, and are thus rendered valueless for agricultural purposes. Arable land is found in several broad valleys in the north, but chiefly in the southeast, along the upper courses of the Snake River. The soil of these valleys is often sandy and unstable but with irrigation yields good crops.

NUMBER AND SIZE OF FARMS.

Table 1 gives, by decades since 1870, the number of farms, the total and average acreage, and the per cent of farm land improved.

TABLE 1.—FARMS AND FARM ACREAGE: 1870 TO 1900.

YEAR.	Number of farms.	NUMBER OF ACRES IN FARMS.				Per cent of farm land improved.
		Total.	Improved.	Unimproved.	Average.	
1900	17,471	3,204,903	1,413,113	1,791,785	183.4	44.1
1890	6,603	1,902,256	606,362	695,894	197.1	46.6
1880	1,885	827,798	197,407	130,391	173.9	60.2
1870	414	77,139	26,608	50,536	186.3	34.5

In the census of 1870 only 414 farms were reported in the newly settled territory of Idaho. The number increased rapidly in the following decades, keeping pace with the growth of population, until in 1900 there were 17,471 farms, or nearly three times as many as were reported in 1890. Each decade shows, also, a large increase in the total farm acreage. The average size of farms has fluctuated, increasing from 1880 to 1890, but decreasing in the last decade, as intensive cultivation has become more general and special branches of agriculture have been developed. The percentage of improved farm land increased

greatly between 1870 and 1880, but since 1880 has shown a decrease for each decade, owing, in part, to the increase in the number of live-stock farms in the state and the consequent increase in the area of unimproved grazing land, and also, with respect to the last decade, to a more strict interpretation of the term "improved land" in 1900 than in previous census years.

FARM PROPERTY AND PRODUCTS.

Table 2 presents a summary of the principal statistics relating to farm property and products for each census year beginning with 1870.

TABLE 2.—VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND OF FARM PRODUCTS: 1870 TO 1900.

YEAR.	Total value of farm property.	Land, improvements, and buildings.	Implements and machinery.	Live stock.	Farm products. ¹
1900	\$67,271,202	\$42,318,183	\$3,205,045	\$21,657,974	\$18,051,625
1890	26,857,530	17,481,580	1,172,460	27,253,490	8,848,930
1880	5,443,620	2,882,890	363,930	2,246,800	1,515,314
1870 ²	1,072,735	492,860	59,295	520,580	4637,797

¹ For year preceding that designated.

² Exclusive of the value of animals on ranges.

³ Values for 1870 were reported in depreciated currency. To reduce to specie basis of other years they must be diminished one-fifth.

⁴ Includes betterments and additions to live stock.

Since 1870 the total value of farm property has increased \$66,198,467, and in the last decade, \$41,413,672, or 160.1 per cent. Of the latter amount, \$24,886,603, or 60.1 per cent, represents the increase in value of land and buildings; \$14,404,484, or 34.8 per cent, in that of live stock; and \$2,122,585, or 5.1 per cent, in that of implements and machinery. Since 1890 the values of land and of implements and machinery have each more than doubled, and that of live stock has nearly trebled, while the value of farm products is now almost five times as great as that reported ten years ago. However, some portion of the increases in value of farm products and of implements and machinery, is doubtless the result of a more detailed enumeration in 1900 than heretofore.

COUNTY STATISTICS.

Table 3 gives an exhibit of general agricultural statistics by counties.

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH GROSS INCOME (PRODUCTS OF 1899 NOT FED TO LIVE STOCK), AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Gross income (products of 1899 not fed to live stock).	EXPENDITURES.	
	Total.	With buildings.	Total.	Improved.	Land and improvements (except buildings).	Buildings.	Implementments and machinery.	Live stock.		Labor.	Fertilizers.
The State	17,471	16,715	3,204,903	1,413,113	\$35,486,368	\$6,831,815	\$3,295,045	\$21,657,974	\$14,645,821	\$2,250,450	\$17,150
Ada	769	726	92,161	56,317	2,888,000	467,000	172,750	1,174,249	1,177,006	227,825	2,370
Bannock	865	816	181,485	76,088	1,407,850	329,750	172,495	1,886,484	762,034	109,330	2,040
Bear Lake	761	713	117,172	72,014	1,156,960	308,370	151,210	975,562	396,148	38,430	80
Bingham	1,160	1,126	196,736	101,311	2,383,048	442,390	257,670	1,160,240	838,522	104,000	1,800
Blaine	639	488	118,968	42,749	894,220	202,780	108,790	1,383,317	681,040	91,280	400
Boise	437	408	81,593	28,737	553,680	136,960	60,960	588,852	310,028	43,160	180
Canyon	881	852	129,695	56,888	2,668,850	463,480	170,010	936,551	842,845	157,820	1,940
Cassia	477	457	97,387	38,158	1,044,190	236,840	95,735	1,430,836	782,521	116,810	70
Custer	215	211	49,629	20,375	315,080	88,160	52,730	527,421	207,495	23,730	100
Elmore	152	140	29,558	11,367	297,830	77,950	28,470	630,009	345,182	57,380	210
Fremont	1,500	1,442	264,571	120,916	3,108,450	491,520	347,730	1,948,077	1,103,461	215,820	540
Idaho	1,302	1,288	249,518	83,906	2,294,270	421,570	182,480	1,012,086	667,816	44,620	60
Kootenai	1,105	1,076	214,999	49,757	1,846,135	299,610	116,941	860,634	452,970	60,497	10
Latah	1,821	1,778	353,700	186,485	4,640,670	808,360	337,940	688,991	1,322,223	222,450	2,400
Lemhi	255	249	61,330	24,895	658,930	157,730	61,520	669,760	253,943	43,790	2,170
Lincoln	191	180	35,559	10,023	436,610	85,560	34,690	635,016	353,950	67,360	590
Nev Perce	2,144	2,097	400,510	200,455	4,097,960	690,200	885,840	989,733	1,192,372	134,860	540
Oneida	1,270	1,198	228,410	110,484	2,518,240	544,280	266,280	1,809,122	1,286,036	153,860	540
Owyhee	274	252	72,776	18,278	550,400	161,050	66,610	1,167,633	583,624	143,970	470
Shoshone	249	244	39,131	7,133	285,990	66,660	17,620	38,002	106,382	19,480	1,230
Washington	757	714	127,227	59,410	1,552,550	275,760	128,610	1,319,308	872,555	105,260	590
Cœur d'Alene ¹	116	102	46,537	20,883	295,435	52,400	51,746	94,810	127,727	11,973	290
Fort Hall ¹	168	114	14,019	5,785	122,065	21,375	174,865	11,324	11,324	1,905	290
Lemhi ¹	68	49	2,272	849	18,660	2,010	3,920	16,426	4,167	500	

¹ Indian reservation.

The average size of farms in 1900 was 183.4 acres for the state and ranged from 119.8 acres in Ada county to 265.6 acres in Owyhee. The average for the Cœur d'Alene Indian reservation was 401.4 acres, and for the Fort Hall and Lemhi reservations 86.0 and 38.4 acres, respectively.

The average value of farms for the state is \$2,422, and ranges from \$4,363 in Ada county to \$1,215 in Shoshone county. In Ada county the average value of farm land, including buildings, is \$36.40 per acre, while the average for the state is only \$13.20.

Although the increase since 1890 in the value of implements and machinery is doubtless due, in part, to a more detailed enumeration of such articles in 1900 than heretofore, the greater part of the gain is a result of the opening up of new lands and the large increase in the number of farms. The highest average values of implements and machinery per farm are found in the irrigated fruit regions of the south, and the lowest in the mountainous districts of the north.

The 5 counties in the southeastern corner of the state, Fremont, Bannock, Oneida, Bingham, and Bear Lake, reported more than one-third of the total value of live stock, though the average per acre is less there than in some other counties. Owyhee, for example, in the southwestern corner, shows an average value of \$16, per acre of farm land, for live stock.

The average expenditure per farm for labor was \$129 for the state, and ranged from \$50 in Bear Lake county to \$525 in Owyhee county.

FARM TENURE.

Table 4 gives a comparative exhibit of farm tenure for 1880, 1890, and 1900. The farms operated by tenants are divided into two groups, designated as farms operated by "cash tenants" and "share tenants." These groups comprise, respectively: (1) Farms operated by individuals who pay a rental in cash or a stated amount of labor or farm produce; (2) farms operated by individuals who pay as rental a stated share of the products. In Table 5 the tenure of farms for 1900 is given by race of farmer, the farms operated by owners being subdivided into four groups, designated as farms operated by "owners," "part owners," "owners and tenants," and "managers." These groups comprise, respectively: (1) Farms operated by individuals who own all the land they cultivate; (2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, and the other, or others, owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

YEAR.	Total number of farms.	NUMBER OF FARMS OPERATED BY—			PER CENT OF FARMS OPERATED BY—		
		Owners. ¹	Cash tenants.	Share tenants.	Owners. ¹	Cash tenants.	Share tenants.
1900.....	17,471	15,942	406	1,123	91.3	2.3	6.4
1890.....	6,693	6,298	69	236	95.4	1.0	3.6
1880.....	1,885	1,796	32	57	95.3	1.7	3.0

¹ Including "part owners," "owners and tenants," and "managers."

TABLE 5.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER.

PART 1.—NUMBER OF FARMS OF SPECIFIED TENURES.

RACE.	Total number of farms.	Owners.	Part owners.	Owners and tenants.	Managers.	Cash tenants.	Share tenants.
The State..	17,471	14,605	816	164	357	406	1,123
White.....	16,876	14,000	806	151	357	384	1,118
Colored.....	595	545	10	13		22	5
Chinese.....	23	2				21	
Indian.....	563	536	9	13			5
Negro.....	9	7	1			1	

PART 2.—PER CENT OF FARMS OF SPECIFIED TENURES.

The State..	100.0	83.6	4.7	0.9	2.1	2.3	6.4
White.....	100.0	83.3	4.8	0.9	2.1	2.3	6.6
Colored.....	100.0	91.6	1.7	2.2		3.7	0.8

The number of farms operated by owners has increased rapidly since 1880, the number in 1900 being nearly nine times that reported twenty years before, and over two and a half times that reported in 1890.

The tenant class, although operating only a small percentage of the farms of the state, shows larger relative gains than owners. About two-thirds of this class in 1900 were share tenants, who for the period from 1880 to 1890 show the largest percentage of gain. During the last decade, however, cash tenants have increased more rapidly than share tenants.

Of the farms of the state, 96.6 per cent are operated by white farmers, and 3.4 per cent by colored farmers. About nine-tenths of the white farmers own all or a part of the farms they operate. Most of the colored farmers are Indians, of whom the majority are owners. Two of the 23 Chinese are owners and the rest are cash tenants. Seven of the 9 negroes are owners.

No previous census has reported the number of farms operated by "part owners," "owners and tenants," or "managers," but it is believed that the number of farms conducted by the last-named class is constantly increasing.

FARMS CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Tables 6 and 7 present the principal statistics for farms classified by race of farmer and by tenure.

TABLE 6.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER, AND TENURE.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State.....	17,471	183.4	3,204,903	100.0	\$67,271,202	100.0
White farmers.....	16,876	183.8	3,101,553	96.8	65,685,168	97.7
Negro farmers.....	9	122.8	1,105	(1)	23,167	(1)
Indian farmers.....	563	180.9	101,869	8.2	1,494,118	2.2
Chinese farmers.....	23	16.3	376	(1)	68,749	0.1
Owners.....	14,605	161.7	2,405,853	75.1	48,518,565	72.1
Part owners.....	816	344.4	281,049	8.8	4,840,897	7.2
Owners and tenants.....	164	234.8	38,501	1.2	709,005	1.1
Managers.....	357	558.6	199,403	6.2	7,198,779	10.7
Cash tenants.....	406	181.8	73,795	2.3	1,635,238	2.4
Share tenants.....	1,123	183.7	206,392	6.4	4,368,718	6.5

¹ Less than one-tenth of 1 per cent.

TABLE 7.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE OF FARMER, AND TENURE.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total invest- ment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery.	Live stock.		
The State -----	\$2, 031	\$391	\$188	\$1, 240	\$838	21.8
White farmers -----	2, 060	397	187	1, 248	857	22.0
Negro farmers -----	1, 842	205	156	871	844	32.8
Indian farmers -----	1, 153	224	218	1, 059	254	9.6
Chinese farmers -----	2, 618	164	143	69	1, 576	52.7
Owners -----	1, 745	367	175	1, 035	688	20.7
Part owners -----	3, 665	553	309	1, 405	1, 427	24.1
Owners and tenants -----	2, 736	458	240	889	787	18.2
Managers -----	6, 823	1, 048	538	11, 756	5, 845	29.0
Cash tenants -----	2, 641	370	161	853	893	22.2
Share tenants -----	2, 717	374	170	629	762	19.6

The average values per farm of the various forms of farm property, with the exception of the implements and machinery of Indians and the land and improvements of Chinese, are lower for farms of colored farmers than for those of white farmers.

Nearly all of the farms operated by Chinese are very intensively cultivated vegetable farms, located in the immediate vicinity of the largest markets. This accounts for the very high value of their land and for the high average and percentage of gross income derived by them. As previously stated, only two of the 23 Chinese farmers own the land they cultivate.

Although the Indians possess much larger and better stocked farms than the Chinese, their average gross income in 1899 was less than \$1.50 per acre while that for the

farms of Chinese exceeded \$90. For white farmers the average was \$4.66 per acre.

The farms conducted by managers have larger average areas and higher average values of property and products than the farms of any other group by tenure. The many large cattle ranches included in this group represent greater investments and their operation requires more capital than the average farmer can command. Men wealthy enough to own such farms rarely operate them in person.

FARMS CLASSIFIED BY AREA.

Tables 8 and 9, for farms classified by area, present facts corresponding to those given in Tables 6 and 7 for farms classified by race of farmer and by tenure.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State -----	17,471	183.4	3,204,903	100.0	\$67,271,202	100.0
Under 3 acres -----	349	2.3	798	(¹)	2,692,066	4.0
3 to 9 acres -----	183	6.7	1,256	0.1	290,358	0.4
10 to 19 acres -----	267	13.2	3,526	0.1	420,483	0.6
20 to 49 acres -----	1,478	37.1	54,770	1.7	2,604,580	3.9
50 to 99 acres -----	2,306	76.7	176,764	5.5	5,140,879	7.6
100 to 174 acres -----	8,998	154.0	1,386,070	43.3	23,478,340	34.9
175 to 259 acres -----	1,348	215.9	290,985	9.1	6,297,599	9.4
260 to 499 acres -----	1,930	345.9	667,591	20.8	13,470,228	20.0
500 to 999 acres -----	436	658.9	286,417	8.9	6,170,942	9.2
1,000 acres and over -----	171	1,989.2	336,726	10.5	6,705,777	10.0

¹ Less than one-tenth of 1 per cent.

TABLE 9.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY AREA.

AREA.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implement and machinery.	Live stock.		
The State -----	\$2,081	\$391	\$188	\$1,240	\$838	21.8
Under 3 acres -----	91	90	80	7,458	2,664	34.5
3 to 9 acres -----	795	460	79	210	829	21.3
10 to 19 acres -----	791	304	76	404	861	22.9
20 to 49 acres -----	948	287	112	415	851	19.9
50 to 99 acres -----	1,276	297	145	511	483	21.7
100 to 174 acres -----	1,493	297	159	690	495	19.0
175 to 259 acres -----	2,545	512	288	1,877	1,018	21.8
260 to 499 acres -----	3,907	677	289	2,096	1,579	22.6
500 to 999 acres -----	7,778	1,124	552	4,700	3,054	21.4
1,000 acres and over -----	17,270	2,100	993	13,882	10,082	25.7

The group of medium-sized farms, containing from 100 to 174 acres each, comprises more than one-half of the total number of farms and over 43 per cent of the total farm acreage.

With a few exceptions the average values of the several forms of farm property and products increase with the size of farms. The high average values of live stock and of products for farms under 3 acres are due to the fact that four-fifths of them are live-stock farms whose operators use large ranges on the public domain, but who actually own or lease less than 3 acres of land. The high average gross income for this class is due to the fact that it includes the ranges just mentioned, all the florists' establishments of the state, and a number of the city dairies. The income from these industries is determined not so much by the acreage of land used as by the capital invested in buildings, implements, and live stock, and by the amounts expended for labor and fertilizers.

The average gross incomes per acre for the various groups classified by area are as follows: Farms under 3 acres, \$1,165.19; 3 to 9 acres, \$49.26; 10 to 19 acres, \$27.32; 20 to 49 acres, \$9.46; 50 to 99 acres, \$6.31; 100 to 174 acres, \$3.22; 175 to 259 acres, \$4.72; 260 to 499 acres, \$4.57; 500 to 999 acres, \$4.62; and 1,000 acres and over, \$5.12. The low average shown for the group of farms of between 100 to 174 acres is explained by the fact that the group contains the recently entered homesteads of 160 acres each.

FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

In Tables 10 and 11 the farms are classified by the principal source of income. If the value of the hay and grain raised on any farm exceeds that of any other crop, and constitutes at least 40 per cent of the value of products not fed to live stock, the farm is classified as a "hay and grain" farm. Similarly if vegetables are the leading crop, constituting 40 per cent of net farm products, it is a "vegetable" farm. The farms of the other groups are classified in accordance with the same general principle. "Miscellaneous" farms are those whose operators do not derive 40 per cent of their income from any one class of farm products. Farms with no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE OF INCOME.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State -----	17,471	183.4	3,204,903	100.0	\$67,271,202	100.0
Hay and grain -----	6,141	197.9	1,215,586	37.9	22,899,295	34.1
Vegetables -----	781	111.0	86,656	2.7	1,416,327	2.1
Fruits -----	299	133.1	39,787	1.3	1,696,339	2.5
Live stock -----	5,045	210.1	1,059,956	33.1	30,016,831	44.6
Dairy produce -----	1,985	148.4	294,543	9.2	4,686,315	7.0
Flowers and plants -----	5	1.4	7	(¹)	19,895	(¹)
Nursery products -----	6	118.3	710	(¹)	72,317	0.1
Miscellaneous -----	3,209	158.2	507,658	15.8	6,463,883	9.6

¹ Less than one-tenth of 1 per cent.

TABLE 11.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

PRINCIPAL SOURCE OF INCOME.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State -----	\$2,081	\$391	\$188	\$1,240	\$838	21.8
Hay and grain.....	2,586	427	224	492	749	20.1
Vegetables.....	1,176	247	106	284	375	20.7
Fruits.....	4,403	662	179	429	1,012	17.8
Live stock.....	2,084	465	223	3,188	1,539	25.9
Dairy produce.....	1,880	813	136	582	326	13.8
Flowers and plants.....	2,280	1,600	65	34	607	15.3
Nursery products.....	9,679	1,492	447	435	5,951	49.4
Miscellaneous.....	1,291	277	120	326	311	15.4

For the several classes of farms the average values per acre of products not fed to live stock are as follows: Farms whose operators derive their principal income from flowers and plants, \$438.55; nursery products, \$50.28; fruits, \$7.61; live stock, \$7.33; hay and grain, \$3.78; vegetables, \$3.38; dairy produce, \$2.20; and miscellaneous, \$1.96. The wide variations in the averages and percentages of gross incomes are largely due to the fact that in computing gross incomes no deductions are made for expenses involved in operation. For florists' establishments and nurseries, the average expenditure for such items as labor and fertilizers represents a far greater percentage of the gross income than in the case of "live-stock" or "miscellaneous" farms. If it were possible to present the average net income the variations shown would be much smaller.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by reported value of products not fed to live stock.

TABLE 12.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State -----	17,471	183.4	3,204,903	100.0	\$67,271,202	100.0
\$0 -----	829	137.7	114,164	3.6	1,343,157	2.0
\$1 to \$49.....	801	127.8	102,371	3.2	1,061,031	1.6
\$50 to \$99.....	1,277	133.9	170,954	5.3	1,683,661	2.5
\$100 to \$249.....	3,276	131.8	431,791	13.5	5,491,087	8.2
\$250 to \$499.....	3,933	147.0	577,992	18.0	9,192,930	13.7
\$500 to \$999.....	3,883	175.0	679,603	21.2	13,794,683	20.5
\$1,000 to \$2,499.....	2,542	250.2	635,937	19.8	15,982,735	23.7
\$2,500 and over.....	980	529.1	492,091	15.4	18,721,918	27.8

TABLE 13.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery.	Live stock.		
The State -----	\$2,081	\$391	\$188	\$1,240	\$888	21.8
\$0 -----	759	104	61	696	-----	-----
\$1 to \$49.....	821	141	78	285	36	2.7
\$50 to \$99.....	841	154	79	244	50	4.2
\$100 to \$249.....	1,022	213	109	332	153	9.1
\$250 to \$499.....	1,410	305	153	469	344	14.7
\$500 to \$999.....	2,124	440	218	771	656	18.6
\$1,000 to \$2,499.....	3,685	685	307	1,610	1,423	22.6
\$2,500 and over.....	7,111	1,172	534	11,314	7,003	34.8

Some of the farms with no incomes in 1899 were newly established live-stock farms reporting no sales in that year in excess of the amounts expended for animals, and growing no crops except those fed to live stock. Some were

homesteads taken up too late for cultivation that year, and from others no reports could be secured, as the persons in charge, June 1, 1900, did not operate the farms in 1890, and could give no information concerning the products of that year. A relatively larger number of this class of farms was reported by Indian than by white farmers.

LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the Twelfth Census. The age grouping for neat cattle was determined in accordance with their present and prospective relations to the dairy industry and the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits a very close comparison with the figures published in previous census reports.

Table 14 presents a summary of live-stock statistics.

TABLE 14.—DOMESTIC ANIMALS, FOWLS, AND BEES ON FARMS AND RANGES, JUNE 1, 1900, WITH TOTAL AND AVERAGE VALUES, AND NUMBER OF DOMESTIC ANIMALS NOT ON FARMS.

LIVE STOCK.	Age in years.	ON FARMS AND RANGES.			NOT ON FARMS OR RANGES.
		Number.	Value.	Average value.	Number.
Calves.....	Under 1.....	86,398	\$888,908	\$10.23	1,824
Steers.....	1 and under 2.....	39,646	781,998	19.72	381
Steers.....	2 and under 3.....	27,726	797,550	28.77	216
Steers.....	3 and over.....	10,522	364,197	34.61	129
Bulls.....	1 and over.....	6,309	286,442	45.48	43
Heifers.....	1 and under 2.....	40,398	762,889	18.88	407
Cows kept for milk.....	2 and over.....	51,929	1,797,122	34.61	2,591
Cows and heifers not kept for milk.....	2 and over.....	100,606	2,766,853	27.49	642
Colts.....	Under 1.....	18,212	136,246	7.48	401
Horses.....	1 and under 2.....	20,832	278,326	13.36	318
Horses.....	2 and over.....	131,076	3,708,771	28.29	11,489
Mule colts.....	Under 1.....	275	8,258	29.74	4
Mules.....	1 and under 2.....	209	8,610	41.63	5
Mules.....	2 and over.....	1,309	57,679	44.06	498
Asses and burros.....	All ages.....	362	10,738	29.65	229
Lambs.....	Under 1.....	1,156,065	2,153,766	1.86	487
Sheep (ewes).....	1 and over.....	1,611,030	4,947,888	3.07	305
Sheep (rams and wethers).....	1 and over.....	354,377	1,193,622	3.37	282
Swine.....	All ages.....	114,080	483,338	4.21	3,467
Goats.....	All ages.....	4,481	20,167	4.50	19
Fowls: ¹					
Chickens ²		516,412			
Turkeys.....		10,211	203,127		
Geese.....		3,850			
Ducks.....		9,536			
Bees (swarms of).....		19,240	64,994	3.38	
Value of all livestock.....			21,657,974		

¹The number reported is of fowls over 3 months old. The value is of all, old and young.

²Including Guinea fowls.

The total value of all live stock on farms, June 1, 1900, was \$21,657,974. Of this amount 38.3 per cent represents the value of sheep; 8.3 per cent, that of dairy cows; 30.5 per cent, that of other neat cattle; 19.0 per cent, that of horses; and 3.9 per cent, that of all other live stock.

No reports were received concerning the value of live stock not on farms, but it is probable that such animals have higher average values than those on farms. Allowing the same averages, however, the total value of all live stock in the state, exclusive of the poultry and bees not on farms, is approximately \$22,184,015.

CHANGES IN LIVE STOCK ON FARMS.

The following table shows the changes since 1870 in the numbers of the most important domestic animals.

TABLE 15.—NUMBER OF SPECIFIED DOMESTIC ANIMALS ON FARMS AND RANGES: 1870 TO 1900.

YEAR.	Dairy cows.	Other neat cattle.	Horses.	Mules and asses.	Sheep. ¹	Swine.
1900.....	51,929	311,605	170,120	2,155	1,965,467	114,080
1890 ²	27,278	192,153	84,135	1,012	367,712	52,188
1880.....	12,838	72,029	24,300	619	27,326	14,178
1870.....	4,171	6,285	2,151	371	1,021	2,826

¹Lambs not included.

²Exclusive of animals on ranges.

In the last thirty years there have been marked increases in the numbers of all classes of live stock, the gains having been greatest for sheep and horses in that time, and for swine in the last decade. The number of dairy cows reported increased 90.4 per cent from 1890 to 1900, and of "other neat cattle," 62.2 per cent. The number of "other neat cattle" for 1900, however, includes 86,398 calves, while, in all probability, calves were not reported in the census of 1890. If the calves reported in 1900 are not included in the comparison, the gain since 1890 in the number of "other neat cattle" would be only 38,054, or 17.2 per cent.

Horses, mules, and asses have more than doubled in number in the last decade. The number of sheep reported in 1900 was about five and one-half times that reported ten years before, while swine were nearly four times as numerous as in 1890.

In comparing the poultry report for 1900 (see Table 14) with that for 1890, it should be borne in mind that in 1900 the enumerators were instructed not to report fowls less than 3 months old, while in 1890 no such limitation was made. For this reason the increases shown in the number of fowls of all kinds appear smaller than they really are. Compared with the figures for 1890, the present census shows the following gains: Geese, 166.1 per cent; chickens, 128.0 per cent; turkeys, 58.7 per cent; and ducks, 30.7 per cent.

ANIMAL PRODUCTS.

Table 16 is a summarized exhibit of the animal products of 1899.

TABLE 16.—QUANTITIES AND VALUES OF SPECIFIED ANIMAL PRODUCTS, AND VALUES OF POULTRY RAISED, ANIMALS SOLD, AND ANIMALS SLAUGHTERED ON FARMS IN 1899.

PRODUCTS.	Unit of measure.	Quantity.	Value.
Wool.....	Pounds.....	15,474,447	\$2,210,700
Mohair and goat hair.....	Pounds.....	11,688	3,909
Milk.....	Gallons.....	15,122,948	21,248,107
Butter.....	Pounds.....	2,520,316	465,501
Cheese.....	Pounds.....	196,952	282,438
Eggs.....	Dozens.....	2,879,590	42,726
Poultry.....	Pounds.....	379,450	6,550
Honey.....	Pounds.....	6,550	8,909,454
Wax.....	Pounds.....	6,550	626,237
Animals sold.....			
Animals slaughtered.....			
Total.....			8,784,384

¹Includes all milk produced, whether sold, consumed, or made into butter or cheese.

²Includes the value of all milk sold or consumed and of butter and cheese made.

The value of the animal products of the state in 1899 was \$8,784,884, or 48.7 per cent of the value of all farm products, and 60.0 per cent of the value of products not fed to live stock. Of the above amount, 51.6 per cent represents the value of animals sold and animals slaughtered on farms; 25.2 per cent, that of wool; 14.2 per cent, that of dairy products; 8.5 per cent, that of poultry and eggs; and 0.5 per cent, that of mohair, goat hair, honey, and wax.

ANIMALS SOLD AND ANIMALS SLAUGHTERED.

In 1899 the receipts from sales of live animals together with the value of animals slaughtered comprised over one-half of the value of animal products. About one-half of the farmers of the state reported such sales, the average receipts per farm being \$504 from live animals and \$70 from animals slaughtered. In Lincoln county 69 farmers reported \$167,047 received from the sale of live animals, or an average of \$2,551 per farm, while the highest average value per farm of animals slaughtered, \$344, was reported by Elmore county.

WOOL.

During the past decade there has been a large increase in the production of wool in every county except Custer, and a gain for the state of six-tenths of a pound in the average weight of fleeces. In 1899 Oneida county reported the largest production, 2,044,980 pounds, or but 74,262 pounds less than the production for the entire state ten years before. Six other counties, Fremont, Owyhee, Ada, Cassia, Washington, and Bannock, ranking in the order named, each reported more than 1,200,000 pounds.

DAIRY PRODUCTS.

Of the 17,471 farmers of the state, 1,985, or 11.4 per cent, derived their principal income from dairy produce. In the last decade the production of milk has nearly trebled, and since 1880 the quantity of milk sold has increased from 15,627 gallons to 2,789,638 gallons. Since 1890 the quantity of butter made on farms has more than doubled, while that of cheese has slightly decreased.

Of the \$1,243,197 given in Table 16 as the value of all dairy products in 1899, \$694,472, or 55.9 per cent, represents the value of such products consumed on farms, and \$548,725, or 44.1 per cent, the amount received from sales. Of the latter amount, \$336,860 was received from the sale of 2,789,638 gallons of milk; \$191,501, from 987,133 pounds of butter; \$16,199, from 158,301 pounds of cheese; and \$4,665, from 5,665 gallons of cream.

POULTRY AND EGGS.

The total value of the products of the poultry industry in 1899 was \$747,972, of which amount 62.2 per cent repre-

sents the value of eggs produced and 37.8 per cent that of fowls raised. Over two million dozens more eggs were produced in 1899 than ten years before.

HONEY AND WAX.

The quantity of honey produced in 1899 was 379,450 pounds, or more than ten times the product of 1889. Oneida, Canyon, and Ada counties each produced over 50,000 pounds of honey, and more than one-half of the wax reported was produced in these three counties.

HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS.

Table 17 presents, for the leading groups of farms, the number of farms reporting horses and dairy cows, the total number of these animals, and the average number per farm. In computing the averages presented, only those farms which report the kind of stock under consideration are included.

TABLE 17.—HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS, JUNE 1, 1900.

CLASSES.	HORSES.			DAIRY COWS.		
	Farms reporting.	Number.	Average per farm.	Farms reporting.	Number.	Average per farm.
Total-----	15,907	170,120	10.7	12,928	51,929	4.0
White farmers-----	15,332	148,503	9.7	12,600	51,169	4.1
Colored farmers-----	575	21,617	37.6	328	760	2.3
Owners ¹ -----	14,207	147,008	10.3	11,567	46,741	4.0
Managers-----	306	10,265	33.5	232	1,193	5.1
Cash tenants-----	367	2,934	7.9	278	1,210	4.4
Share tenants-----	1,027	9,943	9.7	851	2,785	3.3
Under 20 acres-----	700	8,674	11.0	370	1,779	4.8
20 to 99 acres-----	3,885	24,939	7.4	2,729	7,483	2.7
100 to 174 acres-----	8,040	68,553	7.9	6,507	23,291	3.6
175 to 259 acres-----	1,304	15,212	11.7	1,137	5,400	5.1
260 acres and over-----	2,478	67,662	23.3	2,185	13,573	6.2
Hay and grain-----	5,450	42,434	7.8	4,368	13,955	3.2
Vegetable-----	712	6,851	8.2	413	1,015	2.5
Fruit-----	239	2,594	10.9	170	453	2.7
Live stock-----	4,932	93,045	18.9	4,012	20,134	5.0
Dairy-----	1,824	11,240	6.2	1,985	10,795	5.4
Miscellaneous ² -----	2,750	14,956	5.4	1,980	5,577	2.8

¹Including "part owners" and "owners and tenants."

²Including florists' establishments and nurseries.

The high average number of horses shown for colored farmers is due to the fact that the Indians, who constitute 94.6 per cent of the "colored" class, generally keep large numbers of horses on their reservations, while the fact that many of the largest stock farms in the state are operated by managers, accounts for the high average for that class of operators. The Indians report but few dairy cows and, for the most part, their horses are inferior stock.

CROPS.

The following table gives the statistics of the principal crops grown in 1899.

TABLE 18.—ACREAGES, QUANTITIES, AND VALUES OF THE PRINCIPAL FARM CROPS IN 1899.

CROPS.	Acres.	Unit of measure.	Quantity.	Value.
Corn	4,582	Bushels	111,528	\$55,880
Wheat	266,305	Bushels	5,340,180	2,181,053
Oats	64,739	Bushels	1,956,498	702,955
Barley	32,798	Bushels	969,214	312,730
Rye	1,304	Bushels	16,580	8,328
Buckwheat	60	Bushels	800	541
Grass seed		Bushels	1,160	2,442
Clover seed		Bushels	2,355	11,843
Flaxseed	17,239	Bushels	134,180	121,682
Hay and forage	513,656	Tons	899,154	4,238,935
Tobacco		Pounds	760	150
Hops	63	Pounds	58,870	7,801
Dry beans	457	Bushels	5,856	9,979
Dry peas	170	Bushels	2,506	4,058
Potatoes	9,313	Bushels	1,095,290	442,489
Sweet potatoes		Bushels	413	227
Onions	167	Bushels	24,865	18,709
Miscellaneous vegetables	6,165			372,606
Sorghum cane		Tons	8	24
Sorghum sirup	21	Gallons	1,393	623
Small fruits	968			95,115
Grapes	1127	Centals	2,772	23,721
Orchard fruits	135,284			\$805,224
Nuts				328
Forest products				315,821
Flowers and plants	5			2,805
Seeds	10			250
Nursery products	115			38,431
Broom corn	1	Pounds	300	15
Miscellaneous				475
Total	953,556			9,267,261

¹Estimated from number of vines or trees.

²Including value of raisins, wine, etc.

³Including value of cider and vinegar.

Hay and forage contributed 45.7 per cent of the total value of crops; cereals, 34.7 per cent; vegetables, including potatoes, sweet potatoes, and onions, 9.0 per cent; fruits and nuts, 5.0 per cent; and all others, 5.6 per cent.

The average yield per acre of hay and forage was 1.8 tons, and the average value, \$4.71 per ton, and \$8.25 per acre. The acreage devoted to hay and forage was 53.9 per cent of the total acreage in crops, but yielded only 45.7 per cent of the total receipts.

The average value per acre of the other crops was as follows: Flowers and plants, \$561; nursery products, \$334; hops, \$117; onions, \$112; small fruits, \$99; miscellaneous vegetables, \$61; potatoes, \$48; grapes, \$45; orchard fruits, \$10; and cereals, \$9.

CEREALS.

The following table is an exhibit of the changes in cereal production since 1879.

TABLE 19.—ACREAGE AND PRODUCTION OF CEREALS: 1879 TO 1899.

PART 1.—ACREAGE.

YEAR.	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	32,798	60	4,582	64,739	1,304	266,305
1889	10,004	16	1,862	21,997	1,092	68,704
1879	8,291		569	13,197	354	22,066

PART 2.—BUSHELS PRODUCED.

YEAR.	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	969,214	800	111,528	1,956,498	16,580	5,340,180
1889	236,471	395	24,695	587,407	10,309	1,176,873
1879	274,750		16,408	462,236	4,341	640,589

The total area devoted to cereals in 1899 was 369,788 acres; in 1889, 98,175 acres; and in 1879, 44,477 acres. About 72 per cent of the total acreage in cereals in 1899 was devoted to wheat. The area used in growing this grain in that year was more than four times that reported ten years before, and nearly twelve times the acreage used in 1879. With the exception of the production of barley in the decade 1879-1889, all other grains show large increases for each decade in both acreage and production. The acreages devoted to corn, barley, and oats have each about trebled during the last decade, while that of rye has increased about one-third. Very little buckwheat is grown, but the acreage reported for 1899 was nearly four times as great as for 1889.

Latah county reported about one-fourth of the total number of bushels of grain produced.

The 4,582 acres given in Table 19 as the area devoted to corn in 1899 is exclusive of 6,626 acres of corn, non-saccharine sorghum, and similar crops grown for forage or ensilage.

HAY AND FORAGE.

In 1900, 13,798 farmers, or 79.0 per cent of the total number, reported hay and forage. Excluding cornstalks and corn strippings, they obtained an average yield of 1.8 tons per acre. For each acre in hay and forage in 1889 there were 2.7 acres in 1899.

In 1899 the acreage and yields of the various kinds of hay and forage were as follows: Wild, salt, or prairie grasses, 140,467 acres and 160,290 tons; alfalfa or lucern, 160,029 acres and 425,706 tons; clover, 14,786 acres and 35,420 tons; other tame and cultivated grasses, 99,281 acres and 139,354 tons; grains cut green for hay, 91,654 acres and 125,043 tons; other hay and forage crops, 7,449 acres and 13,341 tons.

In Table 18 the production of cornstalks and corn strippings is included under "hay and forage," but the acreage is included under "corn," as the forage secured was only an incidental product of the corn crop.

FLAX.

Flax was grown in 1899 by 535 farmers, or 3.1 per cent of the total number in the state. Compared with 1889 the area devoted to this crop shows an increase from 8,002 acres to 17,239, and the yield, an increase from 83,409 bushels of seed to 134,180 bushels. The average yield per acre was 10.4 bushels in 1889, and 7.8 bushels in 1899. In 1899 the average area per farm devoted to this crop was 32.2 acres, and the average value of the crop, \$227. Although 4 counties reported flax, 91.9 per cent of the total acreage was in Nez Perce county. The other counties reporting were Latah, Idaho, and Bingham, ranking in the order named.

ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table.

TABLE 20.—ORCHARD TREES AND FRUITS: 1890 AND 1900.

FRUITS.	NUMBER OF TREES.		BUSHELS OF FRUIT.	
	1900.	1890.	1899.	1889.
Apples	982,349	96,497	223,662	88,296
Apricots	15,092	464	550	59
Cherries	50,778	2,480	12,294	1,197
Peaches	79,757	13,639	17,793	10,584
Pears	128,907	4,062	25,324	3,542
Plums and prunes	585,173	13,963	164,468	8,419

The value of the orchard products of 1899 was \$365,224. The value of such products was not reported by the census of 1890, but in 1879 the reported value was only \$23,147.

The present census shows that 52.1 per cent of all fruit trees in the state are apple trees, and 31.0 per cent, plum and prune trees. Peach trees constitute but 4.2 per cent. Fruit growing is of greatest importance in the 6 counties of Ada, Canyon, Latah, Washington, Owyhee, and Nez Perce, which, in total value of orchard products, rank in the order named. These counties contain 89.0 per cent of all plum and prune trees, 85.6 per cent of all pear trees, 78.2 per cent of all cherry trees, and 74.3 per cent of all apple trees in the state.

In addition to the trees shown in Table 20, unclassified orchard trees to the number of 43,899 were reported, with a yield of 7,909 bushels of fruit.

VEGETABLES.

The value of the vegetables produced in the state in 1899, including potatoes, sweet potatoes, and onions, was \$834,031, of which amount 53.1 per cent represents the value of potatoes and sweet potatoes, and 46.9 per cent, the value of onions and miscellaneous vegetables. Aside from the land devoted to potatoes, sweet potatoes, and onions, 6,165 acres were used in the growing of miscellaneous vegetables. Of this area, 4,806 acres were included in family gardens or on farms, the vegetable products of which were not reported in detail. Of the remaining 1,359 acres, 366 were devoted to cabbages; 192, to water-melons; 149, to muskmelons; 136, to carrots; 131, to sweet corn; 111, to turnips; 97, to beets; 61, to tomatoes; and 116, to other vegetables.

SMALL FRUITS.

The total area used in growing small fruits was 957 acres, and the value of the fruit produced was \$95,115, an

average for the state of about \$99 per acre. Latah county reported 217 acres, or over one-fifth of the total area, but the largest receipts were reported by Canyon county, where they amounted to \$18,275, or \$123 per acre.

The acreage and production of the various berries were as follows: Blackberries and dewberries, 87 acres and 117,140 quarts; currants, 181 acres and 218,580 quarts; gooseberries, 150 acres and 197,540 quarts; raspberries and Logan berries, 230 acres and 257,960 quarts; strawberries, 239 acres and 379,630 quarts; and other small fruits, 70 acres and 75,260 quarts.

FLORICULTURE.

The 5 commercial florists reporting, derived \$2,330 from the sale of flowers and plants, and obtained other products valued at \$855. The capital invested was \$19,400 in land, buildings, and improvements, and \$495 in implements and live stock. Labor cost \$300, and fertilizers, \$45. The land under glass in the state was 12,620 square feet, of which the florists reported 9,848 square feet.

NURSERIES.

The 6 commercial nurserymen operated 710 acres of land in 1899, deriving \$27,868 from the sale of nursery stock, and obtaining other products valued at \$9,910, a total of \$37,778, or \$52.50 per acre. The capital invested was \$67,025 in land, buildings, and improvements, \$2,682 in implements, and \$2,610 in live stock. Their total expenditure for labor was \$6,450.

LABOR AND FERTILIZERS.

The total expenditure for labor in 1899, including the value of board furnished, was \$2,250,450, an average of \$129 per farm. The average was highest for the most intensively cultivated farms, being \$1,075 for nurseries, \$242 for live-stock farms, \$188 for fruit farms, \$123 for hay and grain farms, \$60 for florists' establishments, \$38 for vegetable farms, \$36 for dairy farms, and \$34 for miscellaneous farms. "Managers" expended on an average \$138; "cash tenants," \$127; "share tenants," \$104; and "owners," \$94. White farmers expended \$131 per farm, and colored farmers, \$69.

Fertilizers purchased in 1899 cost \$17,150, an average of less than one dollar per farm, but a sevenfold increase since 1890. The average expenditure was \$9 for florists' establishments, \$3 for vegetable farms, \$2 for fruit farms, and \$1 each for dairy, live-stock, and hay and grain farms.

INDIAN RESERVATIONS.

The Indian tribes of Idaho are the Shoshone, Bannock, and Sheepeater at Fort Hall and Lemhi reservations, the Nez Perce on the Nez Perce reservation, and the Cœur d'Alene and Spokane on the Cœur d'Alene reservation. Like most tribes of the Northwest they had no knowledge of agriculture previous to the coming of the white settlers, but lived on roots, seeds, berries, fish, and game.

All are now located on arable lands and are receiving instruction from the Government in agriculture and in

stock raising. The Cœur d'Alene and Nez Perce have made good progress and are practically self-supporting. By ceding part of their lands to the Government they obtained money to provide themselves with necessary implements and equipment. The other tribes, Shoshone, Bannock, and Sheepeaters, are dependent upon Government rations for 30 per cent of their subsistence and still do some fishing and hunting, although the more progressive among them are settling down and making commendable advancement

in agriculture. Approximately 30 per cent of Idaho Indians wear citizens' dress, and 31 per cent know enough English for ordinary conversation.

CŒUR D'ALENE RESERVATION.

Cœur d'Alene reservation is located in Kootenai county, in the extreme northwestern part of Idaho. At the present time the reservation embraces an area of 404,480 acres, 240,000 acres having been ceded to the Government in 1891. About one-half of the total area is well watered and timbered and, having a rich soil, produces abundantly without the aid of irrigation.

The reservation is occupied by the Cœur d'Alene tribe, together with 99 Indians of the Upper and Middle Spokane, comprising a total population of 752. Agriculture is their principal occupation, and they are industrious and self-supporting, the money received from the sale of lands having been judiciously expended in most instances. With but few exceptions, their farms are under good fence and are well supplied with buildings and implements; their houses are frame structures, painted and fairly well furnished; their farm equipments include all necessary implements from plows to threshing machines; and they own spring wagons and good buggies and have money on deposit in several banks. All wear citizens' clothing, and approximately 20 per cent know enough English for ordinary conversation.

The total area cultivated by these few Indians is larger than that of any other tribe, with the exception of the Five Civilized tribes, and many of the Indian farms at Cœur d'Alene compare favorably with those of neighboring white men in the number of acres under cultivation. Of the 111 Indian farmers, 9 cultivated 500 acres each or over, 21 cultivated 300 acres or over, and 39 cultivated 200 acres or over. The others cultivated from 16 to 200 acres each. The land is not allotted; but possession is treated as ownership.

The acreage sown to crops in 1899 was the largest ever cultivated. The principal crops were wheat, oats, and hay, the latter consisting of both wild and tame grasses in addition to grains cut green. Over one-half of the farmers had small gardens in which vegetables of the hardier varieties were raised. A few grew small fruits and 24 reported orchard trees.

They own cattle and a good grade of American horses, purchased with their own money. In the census year a number of farmers reported small sales of live stock, while 23 reported milk, and 9, butter, with a total of 1,455 pounds.

FORT HALL RESERVATION.

Fort Hall reservation is situated in the southeastern part of Idaho, in Bannock and Bingham counties, and contains 1,350 square miles. About one-fifth of the total area is arable, three-fifths consists of hay and grazing land, and the remainder is mountain and timber land. This reserve is located in the so-called arid region of the state, where irrigation is a necessity. The bottom land of the Snake

River, which forms part of the western boundary and furnishes the water for the irrigation of the reservation and surrounding country, is chiefly valuable for its large crops of wild hay. Valley and table lands are fertile and produce abundantly when irrigated.

The tribes at Fort Hall are the Bannock and Shoshone, of Shoshonean stock, numbering in all 1,387, of whom about one-fourth are Bannock. The marks of tribal distinction, however, are fast being obliterated through intermarriage.

Previous to the coming of the white settlers these tribes lived on roots, seeds, berries, fish, and game. At present there are 159 Indian farmers, many of whom are entirely self-supporting. Approximately one-third wear citizens' clothing and about one-fourth know enough English for ordinary conversation.

The number of acres cultivated by individual Indians ranges from 5 to 100, the average being 20 to 40. The principal crops are wheat, oats, alfalfa, and wild hay. Corn can not be depended upon to mature, owing to the shortness of the season. Nearly all of the more progressive Indians have gardens and raise, for home consumption, potatoes, carrots, onions, and other vegetables of the hardier varieties. Farm products find a ready market among the neighboring cattlemen and miners.

A system of irrigation for this reservation is now in course of construction, which, when completed, will enable the Government to place every family upon irrigated land.

The stock of the reservation is well cared for by the Indians and is of a good grade, but Government supervision is necessary to prevent continual inbreeding and deterioration. During the census year the Indians sold 150,000 pounds of dressed beef to the Government. Little attention is given to dairy cows, and the few Indians who own them milk them irregularly and consume the small quantity of milk produced. Large herds of Indian ponies are still kept on this reservation and are a great detriment to the range and of little value to their owners. The Indians are beginning to recognize the greater value of their cattle, and large numbers of ponies are being sold off every year.

LEMHI RESERVATION.

Lemhi reservation, comprising an area of 100 square miles, is situated near the eastern boundary of Idaho, in Lemhi county. The surface for the most part is hilly and mountainous, less than 5,000 acres being suitable for agriculture.

The tribes at Lemhi are the Bannock, Shoshone, and Sheepeater, all of Shoshonean stock, numbering in all 486. Through long-continued intermarriage, these three bands have become practically a single tribe, and it is hard to distinguish the predominant blood.

As a tribe they are honest and peaceable, but far from being civilized. Many still live in the "tepee" a large portion of the year, and continue to lead a lazy, indifferent life, subsisting on Government rations supplemented by fish and game. The farming class, however, is making steady

improvement under the direction of two Government farmers. Their farms are gradually being enlarged, and new log houses and better fences are being constructed.

The system of irrigation on the reservation is gradually being extended and the part now in course of construction, when completed, will furnish farms for at least 30 families. At present 65 families are located on cultivable land, but owing to the shortness of the season, agriculture alone can not be depended upon for support, and stock raising, to which the reservation is better adapted, will have to be added.

The area cultivated by individual Indians ranges from 5 to 60 acres each, the principal crops being wheat, oats, clover, and timothy. Of the 68 Indians reporting, 47 had gardens, ranging in size from one-fourth of an acre to 4 acres, in which beets, carrots, cabbages, onions, and turnips were raised.

Their live stock consists entirely of Indian ponies, which are practically worthless. They are allowed to range all winter without feed and spring finds them too thin and weak to be of service when most needed.

NEZ PERCE RESERVATION.

The Nez Perce reservation, so called, is situated in the northwestern part of Idaho, in Nez Perce county, with a strip extending into Idaho and Shoshone counties. The original reservation comprised 746,651 acres; but in 1895, 542,000 acres were ceded to the Government and most of the remainder was allotted to the Indians. The allotted land is well adapted to both agriculture and graz-

ing. The soil is of good quality and yields abundantly, without irrigation, all cereals, fruits, and vegetables grown in the Northwest. A fine belt of pine, spruce, and fir timber, 30,000 acres of which have been reserved for the use of the Indians, crosses the reservation.

The Nez Perce (Pierced Noses), of Shahaptian stock, is the only tribe on this reservation, the total population of which is 1,616.

As a tribe they are an earnest, energetic, and progressive people, and are gradually dropping tribal customs for those of civilization. Although they knew nothing of agriculture when first met by the white man, they are now capable of supporting themselves by farming and stock raising. At present, however, 68 per cent of their subsistence is furnished by cash annuities.

The majority of Indian farmers cultivated from 10 to 30 acres of land in 1899, wheat, oats, barley, and hay being their principal crops. The dry, hot winds, prevalent in some sections, seriously injured the growing crops, and large tracts of wheat and barley were cut green for hay. A number of farmers reported orchards of apple, peach, pear, plum, and cherry trees. Gardens were found here and there, a few of which contained small fruits.

Most farms are supplied with range stock, and on some large herds are found. But few farmers, however, reported sales of live stock. Many dairy cows are found among the Nez Perce, 94 out of 213 farmers reporting the production of milk; but small quantities were produced, however, and no butter was made. Indian ponies are still kept in large numbers.

IRRIGATION STATISTICS.

The surface of Idaho comprises 84,290 square miles, or 53,945,600 acres, being slightly larger than the state of Kansas, and one-third larger than the whole of New England. The population in 1900 was 161,772, or about two inhabitants per square mile, as against 20 to 30 per square mile in the Eastern states. The greater part of Idaho lies well within the arid region, but a narrow prolongation in the northern part of the state adjacent to Canada extends into a comparatively humid region. This northern section, known as the Pan Handle, is a region of high altitudes, with considerable areas of plateau and tablelands having an annual rainfall of 20 inches or more. The mountains are rich in minerals. On the tablelands and benches the soil is remarkably fertile and well adapted to the cultivation of hardy cereals and fruits.

The nonirrigated counties of Idaho, including Latah, Nez Perce, Idaho, Shoshone, and Kootenai, reported 52.8 per cent of the cereal acreage of the state in 1899, and 56.9 per cent of the total production. These counties contained 88.3 per cent of the acreage in barley, 53.3 per cent of that in wheat, 40.9 per cent of that in corn, 36.6 per cent of that in oats, and 12.4 per cent of that in rye. They produced 85.8 per cent of the total barley crop, 59.0 per cent of the wheat, 40.7 per cent of the corn, 38.2 per cent of the oats, and 20.4 per cent of the rye.

The southern end of the state includes the greater part of the valley of the Snake River and its upper tributaries, and a small area drained by the Bear River.

The Snake River Valley may be described as a broad, lava-covered plain, dry, dusty, and with a dense growth of sage brush and similar woody shrubs. The surface of the lava-flow in most places is covered to a considerable depth by an alluvial deposit of silt and gravel brought down from the neighboring mountains. This, in turn, is overlaid by a soil of volcanic origin, which, when irrigated, possesses wonderful fertility. In the great central portion are vast fields of lava, some portions of which are covered by a thin sandy soil, which like most of the soil of the arid regions, is highly productive when watered. This central region is used chiefly as a winter range for sheep and cattle.

The Snake River has its source in the Yellowstone National Park, and flows in a southwesterly direction into Idaho, through a canyon which it has cut in the Snake River Mountains. Near the state line it receives a large number of mountain streams, which drain the Caribou and Snake river ranges, while in the southern part of Fremont county, its flow is augmented by that of Henry's Fork, the most important upper tributary which irrigates a large area in Fremont county. From the point of its

junction with Henry's Fork, the Snake River flows in a general southwesterly and westerly direction. In Fremont and Bingham counties, the land on both sides of the river is well watered by many large and costly canals. For a distance of 40 miles from American Falls, the river flows through broken bench lands and lava ridges in a channel varying in depth from 50 to 150 feet, until it reaches Minidoka Ferry, where it flows out upon a broad stretch of land comprising 80,000 acres on the northern side, and about 20,000 acres on the southern. All of this land could be reclaimed by the construction of a dam across the river, which would supply canals on both sides.

Twenty-eight miles below Minidoka Ferry the lava ridges and benches close in, and for 10 miles the river flows through a deep canyon. No very large area of irrigable land is found until the river reaches the vicinity of Cedars, about one-half mile from the western end of the canyon. Westward from Cedars, Snake River falls 1,600 feet in a distance of 80 miles, flowing from 400 to 1,000 feet below the surface of the surrounding country. At this point its summer flow averages about 3,000 second-feet, ranging from a low-water flow of a little less than 1,000 second-feet to a flow in ordinary floods of 20,000 second-feet. This volume of water, tumbling over cliffs, such as those at Twin Falls, 180 feet in height, and those at Shoshone Falls, 210 feet in height, and shooting down long rapids, not only adds to the picturesqueness of the country, but suggests possibilities of the development of enormous waterpower. Part of this power has been utilized at American Falls, near Pocatello, and at Swan's Ferry, south of Boise. The development of this power to its full capacity will render possible the pumping of water to elevations which can not be covered by existing canals, and the creation of many industries. Midway in this canyon a number of perennial springs pour forth a large supply of water, little of which can now be utilized, as the springs are below the level of the land which could be benefited.

From the junction of the Snake River with Henry's Fork, in Fremont county, to its confluence with the Malade River, in Lincoln county, there is no surface drainage from the northern and western portions of the Snake River Valley. The many streams which flow into it sink into the lava ridges on its northern and western boundaries, and reappear as springs along the Snake River. For a distance of 170 miles beyond the point of junction with the Malade, Snake River flows so far below the great plains and plateaus on either side that its waters can never be utilized for irrigation except in a few small valleys in the curves and bends of the stream.

Crossing the southern part of Idaho, the river swings toward the north, the canyon walls giving place to broad valleys at the Oregon state line, where it is joined by the Boise, Payette, and Weiser rivers on the east, and the Owyhee and Malheur rivers on the west. Leaving this open land the river continues northward through deep canyons, cutting off the Blue Mountains of Oregon from the characteristically named Seven Devils range of Idaho. From the mouth of the Salmon River, the Snake flows in

a deep canyon cut through the fertile, rolling, bench lands of Nez Perce county. In the broad bends of the river are small tracts of land, which by reason of favorable soil and perfect shelter, are admirably adapted to fruit raising. At Lewiston the Snake River is joined by the Clearwater River, on the lower bench lands of which irrigation is practiced to some extent in the cultivation of fruit. From this point the Snake River turns westward and flows into the state of Washington, having formed the western boundary of Idaho for over 300 miles.

For the purpose of discussing irrigation in Idaho, the state has been divided into two agricultural regions—arid and humid—the dividing line being at the southern and eastern boundaries of Idaho county. This division is somewhat arbitrary, as in the northern parts of Boise and Washington counties crops are successfully grown without irrigation, while in the northern division irrigation is carried on to some extent in Salmon and Clearwater valleys. The humid portions of the state contain vast areas of forest, and the rainfall is usually sufficient for the raising of general farm crops and fruits. The great Camas prairie of Idaho county, the high plateaus of Nez Perce, and the rolling hills of Latah, produce over one-half of the cereals raised in the state, and yield better crops of rye, barley, oats, and potatoes, than are grown in the southern irrigated counties.

The following table shows the comparative percentages of increase since 1890, in the number of farms and total acreage, and in the value of land and buildings and of products, in the arid and humid divisions of the state.

TABLE A.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF LAND AND BUILDINGS AND OF PRODUCTS, BY SPECIFIED DIVISIONS: 1890 AND 1900.

PART 1.—NUMBER OF FARMS AND ACREAGE.

DIVISIONS.	NUMBER OF FARMS.			NUMBER OF ACRES.		
	1900.	1890.	Per cent of increase.	1900.	1890.	Per cent of increase.
The State...	17,471	6,603	164.6	3,204,003	1,302,256	146.1
Arid region	10,734	4,783	124.4	1,900,488	896,613	112.0
Humid region ¹ ..	6,737	1,820	270.2	1,304,416	405,643	221.6

PART 2.—VALUE OF LAND AND BUILDINGS, AND OF PRODUCTS.

DIVISIONS.	VALUE OF LAND AND BUILDINGS.			VALUE OF PRODUCTS.		
	1900.	1890.	Per cent of increase.	1900.	1890.	Per cent of increase.
The State...	\$42,318,193	\$17,481,580	142.8	\$18,008,788	\$3,848,980	367.8
Arid region	27,068,923	11,278,040	140.0	13,160,435	2,774,940	374.2
Humid region ¹ ..	15,249,260	6,203,540	147.8	4,848,353	1,073,990	351.0

¹ The humid region consists of Idaho, Latah, Nez Perce, Kootenai, and Shoshone counties, and Coeur d'Alene Indian reservation.

The more rapid development shown for each item except "value of products," in the humid region, is explained by the fact that the methods of agriculture practiced there

were the same as in other humid parts of the country; while in the arid region, most of the settlers were forced to adapt themselves to conditions of climate and soil and methods of agriculture entirely different from any they had previously known. It was natural, therefore, that the first immigrants should find greater attractions in the sections where crops are dependent upon rainfall than in those where irrigation is necessary. It is probable that in the next decade a greater percentage of increase will be shown in the southern part of the state, as the cultivable areas there are large in comparison with those in the north.

Of the 53,945,600 acres of land surface in Idaho, 3,204,903 acres, or 5.9 per cent, were included in farms in 1900, and only 1,413,118 acres, or 2.6 per cent, were improved. Of the improved land, 1,385,596 acres are located outside of the Indian reservations. The irrigated land has an area of 602,568 acres, constituting 42.6 per cent of the total improved land.

Within the ten years from 1890 to 1900, the investments in irrigation canals and ditches increased from \$1,029,000

to \$4,168,252, or 305.0 per cent. There were 36 canals, involving a constructive expense of \$947,975, which distributed no water in 1899. Three canals, which had involved an outlay of \$480,000, were failures by reason of mismanagement. The area under the ditches not operated, which ultimately will be reclaimed, exceeds 130,000 acres. In 1890 the acres irrigated, outside of the reservations, numbered 217,005; in 1900 they numbered 602,568. In other words, by the opening of new ditches and canals between 1890 and 1900, by the enlargement of canals previously constructed, and as the result of better methods of water distribution, 385,935 acres were added to the productive area of the state. Most of this land was public domain in 1890, and comparatively valueless. At a low estimate its present value is \$12,060,406, an average of \$31.25 per acre. Thus, irrigation has in ten years increased the improved area by 37.6 per cent, and has added approximately \$12,000,000 to the farm wealth of the state. The relation of irrigation to the various agricultural operations is shown in Table B.

TABLE B.—ACREAGE AND PRODUCTION OF ALL CROPS, AND OF IRRIGATED CROPS: 1899.

CROPS.	ACREAGE.			PRODUCTION.			
	Total.	Irrigated.	Per cent irrigated.	Unit of measure.	Total.	Irrigated.	Per cent irrigated.
The State.....	953,545	508,183	53.3				
Barley.....	32,798	4,746	14.5	Bushels.....	969,214	124,397	12.8
Corn.....	4,582	2,585	56.4	Bushels.....	111,528	64,618	57.9
Oats.....	64,739	38,818	60.0	Bushels.....	1,956,498	1,171,802	59.9
Rye.....	1,304	997	76.5	Bushels.....	16,580	11,760	70.9
Wheat.....	266,305	82,708	31.1	Bushels.....	5,340,180	1,799,028	33.7
Potatoes.....	9,813	6,087	65.4	Bushels.....	1,035,290	661,965	63.9
Onions.....	167	81	48.5	Bushels.....	24,805	14,108	56.7
Alfalfa.....	160,029	153,385	95.8	Tons.....	425,708	416,977	97.9
Grains cut green.....	91,654	12,911	14.1	Tons.....	125,043	18,142	14.6
Other hay.....	261,973	182,806	69.8	Tons.....	348,376	261,910	75.2
Vegetables.....	16,798	3,343	49.2				
Small fruits.....	957	686	71.7				
Grapes.....	127	93	73.2	Centals.....	2,772	2,203	80.6
Orchard fruits.....	235,284	218,705	93.0	Bushels.....	452,000	357,458	79.1
Flaxseed.....	17,239	16	0.1	Bushels.....	134,189	330	0.1
Other crops.....	276	216	78.3				

¹ Except potatoes and onions.

² Estimated from number of vines or trees.

³ Raised in northern counties.

The total number of acres of irrigated crops as given above is 508,183, while the total number of acres of land irrigated is 608,718. The difference of 100,535 acres represents approximately the acreage of pasture land irrigated and the area of land summer fallowed. It is probable that a portion of the area upon which crops were

reported as grown without irrigation, was really irrigated at some time during the year.

Table C is a comparative exhibit, by counties, of the number of irrigators and the acreages irrigated in 1899 and 1889.

TABLE C.—NUMBER OF IRRIGATORS, AND ACRES IRRIGATED, WITH PERCENTAGES OF INCREASE, BY COUNTIES: 1889 AND 1899.

COUNTIES.	NUMBER OF IRRIGATORS.			ACRES IRRIGATED.		
	1899.	1889.	Per cent increase.	1899.	1889.	Per cent increase.
The State ¹	8,987	4,323	107.9	602,598	217,005	177.7
Ada ²	694	547	181.4	48,038	38,919	148.1
Canyon ³	845			48,514		
Bannock ⁴	556			44,220		
Bingham ⁵	1,039	837		71,129	40,912	
Fremont ⁶	1,827		223.8	132,745		375.1
Lemhi ⁷	242	140		23,726	9,984	
Bear Lake	686	387	77.3	43,650	19,844	120.0
Blaine ⁸	439		45.5	32,188	20,121	110.2
Lincoln ⁹	172	420		10,104		
Boise	309	164	88.4	17,918	7,829	128.9
Cassia	448	402	11.4	37,669	19,809	90.2
Custer	200	171	17.0	18,312	8,570	113.7
Elmore	138	87	58.8	9,747	3,487	183.6
Idaho	87	36	141.7	1,065	463	128.5
Kootenai	15	2	650.0	192	9	2,133.8
Nez Perce	33	22	50.0	1,100	492	128.2
Oneida	914	630	45.1	43,135	21,423	101.3
Owyhee	238	155	53.5	16,569	9,078	82.6
Shoshone	17			70		
Washington	558	323	82.0	32,477	16,133	101.3

¹ Exclusive of Indian reservations.

² Part taken to form Canyon in 1892.

³ Organized from part of Ada in 1892.

⁴ Organized from part of Bingham in 1893.

⁵ Part taken to form Bannock and part of Fremont in 1893.

⁶ Organized from parts of Bingham and Lemhi in 1893.

⁷ Part taken to form part of Fremont in 1893.

⁸ Organized from Alturas and part of Logan in 1895.

⁹ Organized from part of Logan in 1895.

Table D is an exhibit, by counties, of the number of irrigated farms compared with total number of farms, and of irrigated acreage compared with total improved acreage.

TABLE D.—NUMBER OF IRRIGATED FARMS COMPARED WITH TOTAL NUMBER OF FARMS, AND IRRIGATED ACREAGE COMPARED WITH TOTAL IMPROVED ACREAGE, JUNE 1, 1900.

COUNTIES.	NUMBER OF FARMS.			NUMBER OF IMPROVED ACRES IN FARMS.		
	Total.	Irrigated.	Per cent irrigated.	Total.	Irrigated.	Per cent irrigated.
The State	17,471	9,188	52.6	1,413,118	608,718	43.1
Ada	789	694	90.2	56,317	48,038	85.3
Bannock	865	656	64.3	76,088	44,220	58.2
Bear Lake	761	686	90.1	72,014	43,650	60.6
Bingham	1,180	1,039	89.8	101,311	71,129	70.2
Blaine	539	439	81.4	42,749	32,188	75.3
Boise	487	309	70.7	28,787	17,918	62.4
Canyon	881	845	95.9	56,888	48,514	85.3
Cassia	477	448	93.9	36,158	37,669	98.7
Custer	215	200	93.0	20,875	18,312	89.9
Elmore	152	138	90.8	11,367	9,747	85.7
Fremont	1,500	1,327	88.5	120,916	102,745	85.0
Idaho	1,302	87	6.7	83,903	1,065	1.3
Kootenai	1,105	15	1.4	49,767	192	0.4
Latah	1,821			186,485		
Lemhi	255	242	94.9	24,895	23,726	95.3
Lincoln	101	172	90.1	10,928	10,104	92.5
Nez Perce	2,144	33	1.5	200,455	1,100	0.5
Oneida	1,270	914	72.0	119,484	43,135	36.1
Owyhee	274	288	86.9	18,278	16,569	90.6
Shoshone	249	17	6.8	7,133	70	1.0
Washington	757	558	77.7	59,410	32,477	54.6
Coeur d'Alene ¹	116			20,883		
Fort Hall ¹	103	146	89.6	5,785	5,859	92.6
Lemhi ¹	68	55	83.8	849	791	93.2

¹ Indian reservation.

Of the total number of farms, 52.6 per cent is irrigated, while of the acreage of improved land, 43.1 per cent is irrigated. The average number of acres of improved land in each irrigated farm is 86, of which 66 are irrigated. Sixteen farms are supplied wholly or in part by water pumped from wells, 244 acres being irrigated in this way.

Table E presents certain statistics pertaining to canals and ditches, and a comparison of areas irrigated with areas under ditch, by counties.

TABLE E.—NUMBER, LENGTH, AND COST OF CONSTRUCTION OF MAIN CANALS AND DITCHES, WITH ACREAGE UNDER DITCH, AND ACREAGE IRRIGATED, IN 1899.

COUNTIES.	MAIN CANALS AND DITCHES.			NUMBER OF ACRES.		Average area irrigated per mile of ditch, in acres.
	Number.	Length in miles.	Cost of construction.	Under ditch.	Irrigated from streams.	
The State ¹	1,834	4,977	\$5,116,227	1,343,500	602,324	121
Ada	40	301	1,073,165	250,000	47,990	169
Bannock	129	405	191,680	70,000	44,220	109
Bear Lake	75	209	105,025	42,000	43,650	209
Bingham	68	466	940,820	225,000	71,129	183
Blaine	191	424	118,775	53,000	32,188	76
Boise	102	201	85,190	25,000	17,918	89
Canyon	36	267	745,845	133,000	44,220	182
Cassia	134	346	79,370	42,000	37,622	109
Custer	108	252	56,895	27,000	18,312	73
Elmore	78	129	189,445	23,000	9,747	76
Fremont	152	537	530,182	260,000	102,745	181
Idaho	84	90	20,800	2,000	1,065	12
Kootenai	12	10	2,185	400	192	19
Lemhi	151	278	111,165	28,000	23,726	87
Lincoln	96	193	130,050	27,000	10,104	52
Nez Perce	8	15	98,035	13,000	1,030	69
Oneida	80	283	219,744	55,000	43,135	160
Owyhee	134	269	297,135	28,000	16,490	61
Shoshone	17	5	1,000	100	70	14
Washington	144	297	123,821	48,000	32,477	139

¹ Exclusive of Indian reservations.

No reports were secured concerning the cost of irrigation ditches in the Indian reservations, and the statistics presented in Table E relate only to the canals and ditches in counties outside these reservations. The number of acres of irrigated land for each mile of ditch is 121, while the number of acres under ditch for each mile is 271. The present number of ditches, if furnished with sufficient water and properly managed, would, therefore, more than double the cultivable area. The average cost of constructing the ditches was about \$1,028 per mile, \$3.79 per acre of land under ditch, and \$8.46 per acre of land actually irrigated in the year 1899. An explanation of the high average per acre for all land irrigated is to be found in the fact that some of the ditches included in the tabulation were not completed early enough in 1899 to aid in maturing crops for that year; while from others, because of mismanagement, no adequate returns have been received for the large sums expended in their construction. The average cost of construction, per acre irrigated, of wisely planned and economically constructed ditches, does not vary much from the average cost of water right. The term "water right," as used in Table F, means the first cost, per acre, to the irrigator, of putting water on the land, exclusive of the cost of maintenance of the ditch, or

of annual water rental. The average cost of water right, per acre, for Idaho was \$6.91.

The following table gives the average cost of water right and annual maintenance, and the average value of farms, per acre, by counties:

TABLE F.—AVERAGE VALUE PER ACRE OF IRRIGATED AND UNIRRIGATED FARMS AND FARM LAND, JUNE 1, 1900, AND AVERAGE COST PER ACRE OF WATER RIGHT AND OF ANNUAL MAINTENANCE IN 1899.

COUNTIES.	AVERAGE VALUE PER ACRE.					AVERAGE COST PER ACRE.	
	Farms, exclusive of buildings.			Land under ditch.		Water right.	Annual maintenance.
	All.	Irrigated.	Unirrigated.	Irrigated.	Unirrigated.		
The State ¹	\$11.15	\$12.94	\$9.11	\$31.25	\$9.51	\$6.91	\$0.24
Ada.....	31.33	32.55	6.09	50.50	12.08	15.70	0.73
Bannock.....	7.55	9.00	4.07	21.82	8.03	4.08	0.11
Bear Lake.....	10.49	9.87	4.00	25.25	7.57	2.40	0.21
Bingham.....	12.11	12.87	2.99	21.74	6.17	11.38	0.86
Blaine.....	7.51	8.06	2.51	19.85	4.90	3.50	0.14
Boise.....	6.79	7.95	3.00	20.77	5.93	3.62	0.20
Canyon.....	20.57	20.92	4.02	65.86	16.55	14.88	0.20
Cassia.....	10.73	10.88	2.04	31.00	3.50	2.08	0.15
Custer.....	6.34	7.55	1.46	15.93	4.00	3.10	0.13
Elmore.....	10.07	10.23	1.49	30.00	10.00	4.00	0.19
Fremont.....	11.65	12.67	2.42	20.00	8.00	4.95	0.14
Idaho.....	9.35	12.00	9.03	54.00	22.50	20.00	1.25
Kootenai.....	6.26	7.13	6.25	43.50	20.00	10.00	0.60
Latah.....	13.12		13.12				
Lemhi.....	10.74	11.01	2.08	26.00	6.00	4.63	0.25
Lincoln.....	12.02	12.51	1.11	39.75	9.25	8.00	0.26
Nez Perce.....	10.23	24.93	10.00	200.00	25.00	31.00	1.50
Oneida.....	11.02	12.16	7.30	34.25	10.00	4.18	0.20
Owyhee.....	7.56	7.76	2.61	30.00	6.50	5.33	0.60
Shoshone.....	6.03	19.99	5.39	30.00	16.00	10.00	0.15
Washington.....	12.20	14.08	4.16	48.00	10.00	3.87	0.16

¹ Exclusive of Indian reservations.

The average value per acre of land under ditch not yet prepared for irrigation, though within reach of ditches, is \$9.51, while that of irrigated land is \$31.25. The difference—\$21.74 per acre—represents the value added by irri-

gation. This difference would have been greater and the cost per irrigated acre somewhat less if all the ditches had been in operation and successfully managed.

Of the 17,471 farms in the state, including those in the Indian reservations, 9,188 are irrigated and 8,283 are unirrigated. The acres in the irrigated farms number 1,677,398 and in the unirrigated, 1,529,585. The value of all land in the irrigated farms, not including buildings, is \$21,850,135 and in the unirrigated farms, \$13,636,233. The value of all buildings on irrigated farms is \$4,338,425, and on unirrigated farms, \$2,493,390. Of the total number of farms, those irrigated constitute 52.6 per cent. Their corresponding percentage of the total acreage is 52.3 per cent; that of the value of land and improvements, exclusive of buildings, 61.6 per cent; buildings, 63.5 per cent; implements and machinery, 63.0 per cent; and products, 68.6 per cent.

The average size of all farms is 183.4 acres, and that of irrigated farms, 182.5 acres, while the average area of irrigated land in each irrigated farm is 66 acres. For farms making use of irrigation, the average value of the products of 1899 not fed to live stock was \$7.29 per acre. The average value per acre of products not fed to live stock on unirrigated farms was \$3.74, or nearly double that for similar farms in Arizona.

The average value of land, exclusive of buildings, is, for all farms, \$11.15; for unirrigated farms, \$9.11; and for irrigated farms, \$12.94. The average value of irrigated land per acre is \$31.25, while that for the best irrigated land, suitable for the growing of fruit, ranges from \$60 to \$500 per acre.

The total value of all crops produced on irrigated land in 1899 was \$5,440,962. The values of the several irrigated crops were: Hay and forage, \$3,219,156; cereals, \$1,275,858; vegetables, \$544,314; orchard fruits, \$291,007; small fruits, \$38,190; and other crops, \$72,437.